

REMARKS

Claims 10-28 are pending in the present application. Claims 10-28 have been rejected. In the above amendments, claims 10, 17 and 28 have been amended to obviate the Section 112 Rejections, pointed out below.

Applicants respectfully respond to this Office Action.

A. Claims 10-19 and 28 Rejected under 35 U.S.C. § 112

The Examiner rejected claims 10-19 and 28 under 35 U.S.C. § 112, second paragraph. Claims 10, 17 and 28 have been amended to obviate the Section 112 Rejections.

B. Claims 10-28 Rejected under 35 U.S.C. § 103(a)

In the Office Action mailed November 7, 2003, the Examiner rejected claims 10-22 under 35 U.S.C. § 103(a) as being unpatentable over Tiedemann, Jr., U.S. Patent No. 5,604,730 (hereinafter, "Tiedemann") in view of Illidge, U.S. Patent No. 6,101,394 (hereinafter, "Illidge"). The Examiner rejected claims 23-28 under 35 U.S.C. § 103(a) as being unpatentable over Tiedemann in view of Illidge as applied by the Examiner to claim 10 and further in view of statements made in Applicants' specification. These rejections are respectfully traversed.

The M.P.E.P. states that

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that

the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

M.P.E.P. § 2142. A *prima facie* case of obviousness has not been established regarding claims 10-28 because the prior art cited does not teach or suggest all the claim limitations.

Claim 10 recites a method that includes "designating a multi-carrier forward link having a plurality of forward link frequency bins; and designating a reverse link having at least one reverse link frequency bin," wherein "the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link." Thus, a multi-carrier forward link is configured into a plurality of forward link frequency bins so that the designations of the forward link and the reverse link bins enable the bandwidth of the forward link to be allocated differently from the bandwidth of the reverse link.

The specification of the present application notes that "in the currently proposed Third Generation Systems, the bandwidth allocated to reverse link transmissions is the same as the bandwidth allocated for forward link transmission" (See Background of Specification, Page 6, lines 6-8). The present application proposes a multi-carrier forward link system wherein the bandwidth of the forward link can be allocated differently from the bandwidth of the reverse link. This approach also provides an added benefit of enabling the user of a particular technology, such as "cdma2000 1X", to more easily transition to a newer version of the technology, such as cdma2000 3X.

The Examiner asserted that Tiedemann shows a forward link having a plurality of forward link frequency bins in Tiedemann Figure 7 and Col. 5, lines 16-26. Office Action, Page 4. Generally, Tiedemann relates to a power control process that "enables a base station communicating over a forward packet channel to a mobile radio to control the power of the mobile radio transmitting over a reverse packet channel to the base station." (See Tiedemann, Abstract). The forward link is based on a standard CDMA channel including "a pilot channel, a synchronization channel, one or more paging channels, one or more forward packet channels and

forward traffic channels.... [A] forward packet channel is a spread spectrum channel similar in operation to the forward traffic channel as disclosed in IS-95." (See id., Col. 5, lines 17-24). Figure 7 of Tiedemann is simply a diagram of "the format of a forward CDMA channel in accordance with the present invention." At most this shows a forward link having one forward link frequency bin.

Further regarding Tiedemann, it does not show "the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link." The Examiner cited the following portions of Tiedemann for this assertion:

The reverse packet channel, in the preferred embodiment, is a variable rate channel that transmits data packets that have been broken up into a sequence of one or more frames. In an alternate embodiment, the reverse packet channel handles data at a fixed rate.

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Similarly, one or more reverse packet channels are associated with a forward packet channel and an overhead message defines the number of reverse packet channels associated with a particular forward packet channel. Different reverse packet channels (810) associated with the same forward packet channel are differentiated by each reverse packet channel having a unique spreading code.

Id., Col. 5, lines 1-5 and lines 31-39. These portions of Tiedemann do not show "the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link." Indeed, the Examiner has admitted that Tiedemann does not show this in the Office Action dated June 27, 2003 where the Office Action stated "Tiedemann in view of Proctor possibly does not expressly disclose that the forward link frequency bins and the reverse link frequency bin are designated such that bandwidth of the forward link is allocated differently from bandwidth of the reverse link." June 27, 2003 Office Action, Page 3.

Regarding the claim element of “designating a multi-carrier forward link”, the Examiner has admitted that “Tiedemann does not disclose that the forward link is a multi-carrier forward link.” Office Action, Page 4.

As shown, Tiedemann does not teach or suggest “designating a multi-carrier forward link having a plurality of forward link frequency bins” or “the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link.”

Illidge does not teach or suggest these missing claim elements, namely “designating a multi-carrier forward link having a plurality of forward link frequency bins” or “the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link.” The Examiner only asserts that Illidge teaches using a multi-carrier forward link. Office Action, Page 4.

Illidge only shows multiple carriers. It does not show, teach or suggest “a multi-carrier forward link.” In fact, Illidge teaches a single carrier forward link.

In CDMA systems, a MS (mobile station) accesses the CDMA system *on a particular carrier frequency*. . . . The channels of a given carrier occupy the same frequency bandwidth and are differentiated from each other by a series of different orthogonal codes.

When a carrier reaches its capacity limit, it is desirable to increase the capacity of the system. One way of achieving this is to increase the number of carriers to greater than one, thereby creating a multi-carrier system.

In existing multi-carrier systems, a MS is capable of tuning to only one of the carrier frequencies at any instant in time. Because of this, the MS is only listening to one of the carrier frequency paging channels. . . .

Illidge, Col. 1, lines 9-25 (emphasis added). The detailed description teaches a single carrier forward link as follows:

When the MS 22 registers with the current MSC 10 (through the BTS 18 and BSC 14), a record is created in the VLR 23 in MSC 10, and *the MS is assigned by the BTS to a particular band class* and channel number. *The band class identifies on which of several band classes the MS 22 is operating.* In an existing CDMA standard the band classes include the 800 MHZ band class and the 1900 MHZ band class. The channel number identifies the particular carrier within the identified band class that the MS has been assigned. Every carrier contains a paging channel for sending messaging and control information. After the MS 22 registers, it begins monitoring the paging channel associated with its assigned carrier and band class.

...

In step 1, *the MS 22 registers with the BTS 18 on a particular band class and carrier frequency.* The BTS with which the MS 22 registers is the BTS for the cell in which the MS is located. How the particular band class and carrier frequency are selected is outside the scope of this invention.

Id., Col. 3, lines 18-30 and lines 63-67 (emphasis added). This shows that Illidge teaches a single carrier forward link. Illidge shows multiple carriers, but it does not teach or suggest a multi-carrier forward link.

As shown, none of the cited references relates to the claimed CDMA system that includes “designating a multi-carrier forward link having a plurality of forward link frequency bins” or “the forward link frequency bins and the at least one reverse link frequency bin are designated such that bandwidth of the forward link can be allocated differently from bandwidth of the reverse link.” Thus, a prima facie case of obviousness has not been established regarding claim 10 because the prior art cited does not teach or suggest all the claim limitations and because there is no suggestion or motivation to modify the reference or to combine reference teachings as the Examiner has suggested.

Claims 11-16 and 22-28 depend directly or indirectly from claim 10. Thus, Applicants respectfully request that the rejection of claims 11-16 and 22-28 be withdrawn for at least the same reasons.

Claim 17 recites a “method of allocating bandwidth for forward and reverse link transmissions in a wireless communication system” that includes “receiving communications on a multi-carrier forward link, the multi-carrier forward link having a plurality of forward link frequency bins, the reverse link having at least one frequency bin,” and “wherein the forward link bins and the at least one reverse link frequency bin are configured such that the allocation of bandwidth for the forward and reverse link transmissions can be varied.” As shown and argued above, a prima facie case of obviousness has not been established regarding this claim because the prior art cited does not teach or suggest all the claim limitations and because there is no suggestion or motivation to modify the reference or to combine reference teachings as the Examiner has suggested.

Claims 18-19 depend directly or indirectly from claim 17. Thus, Applicants respectfully request that the rejection of claims 18-19 be withdrawn for at least the same reasons.

Claim 20 recites an apparatus in a wireless communication system that includes “a first means for transmitting information on a multi-carrier forward link, wherein said multi-carrier forward link comprises a plurality of forward link frequency bins;” and “a second means for designating a reverse link frequency bin, wherein said first and second means configure the frequency bins so as to enable differential allocation of bandwidth for forward link and reverse link transmissions.” As shown and argued above, a prima facie case of obviousness has not been established regarding this claim because the prior art cited does not teach or suggest all the claim limitations and because there is no suggestion or motivation to modify the reference or to combine reference teachings as the Examiner has suggested.

Claim 21 depends directly from claim 20. Thus, Applicants respectfully request that the rejection of claim 21 be withdrawn for at least the same reasons.

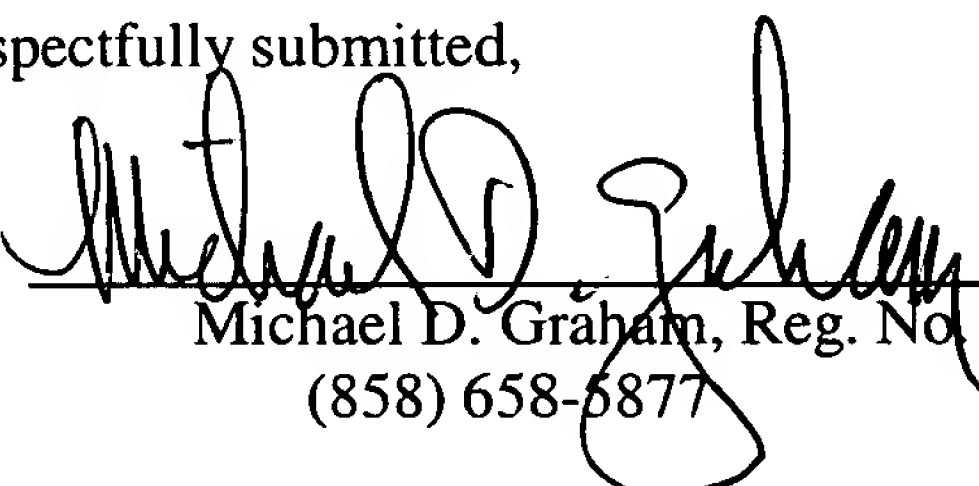
REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

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Respectfully submitted,

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